

CLAIMS

What Is Claimed Is:

1 1. An anti-diabetic composition comprising an aqueous extract  
2 of plants of the genus *Brickellia*.

1 2. The anti-diabetic composition of Claim 1, wherein the extract  
2 is from *Brickellia californica*.

1 3. An anti-diabetic composition consisting of a flavonoid  
2 selected from the group consisting of luteolin, myricetin, dihydrokaemferol,  
3 apigenin, quercetin and mixtures thereof.

1 4. An anti-diabetic composition consisting of a mixture of  
2 luteolin, dihydrokaemferol and apigenin.

1 5. The anti-diabetic composition of Claim 4, wherein the molar  
2 concentration of luteolin is at least twice that of dihydrokaemferol and apigenin  
3 added together.

1 6. A method for treatment of diabetes mellitus comprising the  
2 step of administering a quantity of an aqueous extract of plants of the genus  
3 *Brickellia* to result in a reduction in blood glucose.

1 7. The method of Claim 6, wherein the extract is from *Brickellia*  
2 *californica*.

09667030.092701

1 8. A method for treatment of diabetes mellitus consisting of the  
2 step of administering a quantity of a flavonoid selected from the group consisting  
3 of luteolin, myricetin, dihydrokaemferol, apigenin, quercetin and mixtures thereof  
4 to result in a reduction in blood glucose.

1 9. The method of Claim 8, wherein a mixture of luteolin,  
2 dihydrokaemferol and apigenin is administered.

1 10. The method of Claim 9, wherein the molar concentration of  
2 luteolin is at least twice that of dihydrokaemferol and apigenin added together.

1 11. A method of controlling diabetes mellitus in a mammal  
2 comprising the step of administering to the mammal a molecule that binds to  
3 K<sub>v</sub>1.3 ion channels

1 12. The method of Claim 11, wherein the molecule is a  
2 flavonoid.

1 13. The method of Claim 12, wherein the flavonoid is luteolin.

1 14. A method of controlling unwanted proliferation to T-cells in a  
2 mammal comprising the step of administering to the mammal a molecule that  
3 binds to K<sub>v</sub>1.3 ion channels.

09049560-2220

1 15. A method of screening a group of compounds for anti-  
2 diabetic activity in a mammal comprising the step of determining which members  
3 of the group binds to and blocks  $K_v1.3$  ion channels, wherein the members  
4 binding to and blocking  $K_v1.3$  ion channels are selected as having potential anti-  
5 diabetic activity.

1 16. A method of screening a group of compounds for ability to  
2 suppress autoimmune responses in a mammal comprising the step of  
3 determining which members of the group binds to and blocks  $K_v1.3$  ion channels,  
4 wherein the members binding to and blocking  $K_v1.3$  ion channels are selected as  
5 having potential ability to suppress autoimmune responses.

1 17. A compound that contrails diabetes mellitus in a mammal  
2 characterized in that the compound binds to and blocks  $K_v1.3$  ion channels,

09967030 092701  
T02260 090960

add  
A'